

Mr. Dean Miller  
Doors Plus, Inc. Plant #2  
460 CR. 15  
Elkhart, Indiana 46516

Dear Mr. Miller

Re: Exempt Construction and Operation Status,  
039-12708-00547

The application from Doors Plus, Inc. Plant #2, received on September 13, 2000, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following window finishing operation, to be located at 460 CR. 15, Elkhart, Indiana, is classified as exempt from air pollution permit requirements:

- (a) One (1) surface coating operation utilizing an HVLP spray gun for stain application on finished windows with a maximum capacity of eighteen (18) windows per day, and no controls for overspray.
- (b) One (1) surface coating operation utilizing an air-assisted airless spray gun for topcoat sealer application on finished windows with a maximum capacity of eighteen (18) windows per day, and no controls for overspray.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
  - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations) the particulate matter (PM) from the proposed facility shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and  
P = process weight rate in tons per hour

- (3) Pursuant to 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating), the owner or operator shall apply all coating materials, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the application systems methods:

- Airless spray application system
- Air-assisted airless spray application system
- Electrostatic spray application system
- Electrostatic bell or disc application system
- Heated airless spray application system
- Roller coat
- Brush or wipe application system
- Dip-and-drain application system.

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pound per square inch (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

DWH

cc: File - Elkhart County  
Elkhart County Health Department  
Air Compliance – Greg Wingstrom  
Northern Regional Office  
Permit Tracking - Janet Mobley  
Technical Support and Modeling - Michele Boner  
Compliance Data Section - Karen Nowak

## **Indiana Department of Environmental Management Office of Air Management**

### **Technical Support Document (TSD) for an Exemption**

#### **Source Background and Description**

**Source Name:** Doors Plus Plant #2  
**Source Location:** 460 CR 15, Elkhart, Indiana, 46516  
**County:** Elkhart  
**SIC Code:** 2431  
**Operation Permit No.:** 039-12708-00547  
**Permit Reviewer:** David Howard

The Office of Air Management (OAM) has reviewed an application from Doors Plus, Inc. relating to the construction and operation of window finishing operation. A source determination has been conducted to indicate that Doors Plus Inc., Plant #2 (039-00547) and Doors Plus Inc. (039-00172) will be considered two separate sources.

#### **New Emission Units**

This new source consists of the following new emission units:

- (a) One (1) surface coating operation utilizing an HVLP spray gun for stain application on finished windows with a maximum capacity of eighteen (18) windows per day, and no controls for overspray.
- (b) One (1) surface coating operation utilizing an air-assisted airless spray gun for topcoat sealer application on finished windows with a maximum capacity of eighteen (18) windows per day, and no controls for overspray.

#### **Existing Approvals**

This source has no existing approvals.

#### **Stack Summary**

There are no stacks currently at the facility that emit to the atmosphere

#### **Enforcement Issue**

There are no enforcement actions pending.

#### **Recommendation**

The staff recommends to the Commissioner that the construction and operation be approved.

A complete application for the purposes of this review was received on September 13, 2000.

See Appendix A of this document for detailed emissions calculations.

### Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM/PM <sub>10</sub>	1.87
SO <sub>2</sub>	--
VOC	3.86
CO	--
NO <sub>x</sub>	--
Single HAP	3.20
Combined HAP	3.21

- (a) The potential to emit, as defined in 326 IAC 2-1.1-1(16), is less than ten (10) tons per year VOC, less than five (5) tons per year PM, and any single or combined HAP is less than ten (10) and twenty five (25) tons per year, respectively. Therefore pursuant to 326 IAC 2-5.1-1 the source will be issued an exemption.

### County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>x</sub>	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors to the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as attainment or unclassifiable for ozone.

### Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM/PM <sub>10</sub>	1.87
SO <sub>2</sub>	--
VOC	3.86
CO	--
NO <sub>x</sub>	--
Single HAP	3.2
Combination HAPs	3.21

- (a) This new source is not a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.
- (b) The potential to emit, as defined in 326 IAC 2-1.1-1(16), of volatile organic compounds (VOC) and particulate matter (PM) is less than ten (10) tons per year and five (5) tons per year, respectively. Therefore pursuant to 326 IAC 2-5.1-1 the source will be issued an exemption.

#### Part 70 Permit Determination

##### 326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

#### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) The source is not subject to 40 CFR Part 63 Subpart JJ (Wood Manufacturing Operations) because the potential to emit a single or combined HAP is less than 10 and 25 tons per year, respectively.

#### State Rule Applicability - Entire Source

##### 326 IAC 2-6 (Emission Reporting)

The source is not subject to the requirements of 326 IAC 2-6 because the potential to emit VOC is less than ten (10) tons per year.

##### 326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### 326 IAC 6-3-2 (Particulate Emission Limitations)

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The particulate matter (PM) from the proposed facility shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

#### 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating)

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The source is subject to the requirements of 326 IAC 8-2-12 (Wood Furniture and Cabinet Coating) because VOC emissions are greater than fifteen (15) pounds per day. The owner or operator shall apply all coating materials, with the exception of no more than ten (10) gallons of coating per day used for touch-up and repair operations, using one (1) or more of the application systems methods:

- Airless spray application system
- Air-assisted airless spray application system
- Electrostatic spray application system
- Electrostatic bell or disc application system
- Heated airless spray application system
- Roller coat
- Brush or wipe application system
- Dip-and-drain application system.

High Volume Low Pressure (HVLP) Spray Application is an accepted alternative method of application for Air Assisted Airless Spray Application. HVLP spray is the technology used to apply coating to substrate by means of coating application equipment which operates between one-tenth (0.1) and ten (10) pound per square inch (psig) air pressure measured dynamically at the center of the air cap and at the air horns of the spray system.

#### Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This source will emit levels of air toxics less than those, which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

#### Conclusion

The construction and operation of this window finishing operation shall be subject to the conditions of the attached proposed Exemption Permit 039-12708-00547.

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

**Company Name: Doors Plus Plant # 2  
Address City IN Zip: 460 CR 15, Elkhart, Indiana  
CP: 039-12708-00547  
Reviewer: David Howard**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
stain	6.0	98.24%	0.0%	98.2%	0.0%	3.44%	0.05500	2.250	5.91	5.91	0.73	17.56	3.21	0.05	171.92	10%
sealer coat	8.2	64.15%	52.5%	11.7%	55.4%	30.73%	0.07000	2.250	2.14	0.95	0.15	3.61	0.66	1.82	3.10	10%

<b>State Potential Emissions</b>	<b>Add worst case coating to all solvents</b>	<b>0.88</b>	<b>21.17</b>	<b>3.86</b>	<b>1.87</b>
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**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)  
Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)  
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)  
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)  
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)  
Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)  
Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)  
Total = Worst Coating + Sum of all solvents used

**HAP Calculation**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % HAP	HAP Emissions (ton/yr)
stain	6.02	0.055000	2.25	98.20%	3.20
sealer coat	8.19	0.070000	2.25	0.02%	0.00

**Total HAPs                    3.20539**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs